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10/764,479

01/27/2004

Kimitaka Kamijo

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10/03/2005

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EXAMINER

DUONG, THOI V

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/764,479

Applicant(s)

KAMIJO, KIMITAKA

Examiner

Thoi V. Duong

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 ~~is~~ are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 ~~is~~ are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/27/04 & 9/19/05.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 2-8, 13 and 15 of Species II in the reply filed on July 13, 2005 is acknowledged. The traversal is on the ground(s) that the subject matter of all species is sufficiently related. This is found persuasive; therefore, the previous restrictions are withdrawn and claims 1-16 are all considered in this office action.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamanaka et al. (Yamanaka, USPN 6,873,384 B2).

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Re claim 2, as shown in Figs. 3 and 4, Yamanaka discloses a liquid crystal display device 102, comprising:

- a lower substrate 1;

- an upper substrate 11 opposing the lower substrate 1;

- a liquid crystal layer 14 disposed between the lower substrate 1 and the upper substrate 11; and

- a reflective layer 3' on an inner surface of the lower substrate;

- an irregular surface including a plurality of irregularities 4 (concave portion) being formed on the surface of the reflective layer 3', the irregular surface including irregularity groups 201 (pixel) each of which has substantially randomly arranged irregularities in plan view, and the irregular surface including a periodically repeating arrangement of irregularities with a plurality of the irregularity groups as a repetition unit (Fig. 3 and see also Figs. 1 and 2).

Re claim 3, the irregularity groups 201 are coplanarly aligned in one direction (from top to bottom in Fig. 3) in the irregular surface to form rows and the planar position of the irregularity groups 201 are shifted with respect to respective adjacent rows (C is predetermined point in each irregularity group),

- wherein, re claim 4, the planar shift length between adjacent rows of the irregularity groups 201 are substantially constant (length between the predetermined points C);

- wherein, re claim 5, the planar shift length between adjacent rows of the irregularity groups 201 or between the predetermined point C approximately equals to a

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length of one pixel (one irregularity group), the planar shift length are $1/3$ or 33% of the length of a row consisting of three irregularity groups 201; and

wherein, re claim 8, the direction of the rows are substantially parallel to an arrangement direction of pixels 201 of the liquid crystal display device 102.

Re claim 6, as shown in Figs. 16-18, the irregularity groups 201 are aligned in one direction (from top to bottom in Fig. 18) in the irregular surface to form rows and each row including at least two types of irregularity groups having different lengths along the extending direction due to different arrangements of concave portions 4 (col. 13, line 63 through col. 14, line 16),

wherein, re claim 7, the irregularity groups 201 have different lengths being randomly arranged in the rows (Fig. 18).

Re claim 13, as shown in Fig. 1, since the concave portion 4 of the irregularity group may be located over the boundary of the pixel area 202, the length of the repetition unit of a plurality of the irregularity groups in the direction of the pixels are different from a pitch of the pixels 201 of the liquid crystal display device 102 in Fig. 3 (col. 13, lines 27-35).

Re claim 15, as shown in Figs. 1-4, Yamanaka discloses a reflector 101', comprising:

a substrate 1, and

a reflective layer 3' formed on the substrate 1;

an irregular surface including a plurality of irregularities 4 (concave portion) being formed on the surface of the reflective layer 3', the irregular surface including irregularity

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groups 201 each having substantially randomly arranged irregularities 4 in plan view, and the irregular surface including periodically repeating arrangement of the irregularities with a plurality of the irregularity groups 201 as a repetition unit (col. 13, lines 8-19).

Re claims 1 and 14, as shown in Figs. 4, 17 and 18, Yamanaka discloses an irregular surface including a plurality of irregularities 4 being formed on the surface of the reflective layer 3', the irregular surface including at least two types of irregularity groups having different shapes or sizes, each of the irregularity groups having substantially randomly arranged irregularities in plan view, and the irregularity groups being substantially arranged in plan view (col. 13, line 63 through col. 14, line 23).

Re claim 9, the planar shapes of the irregularity groups 201 being substantially rectangular as shown in Figs. 17 and 18,

wherein, re claim 10, at least one irregularity 4 are formed at each of the boundaries between the adjacent irregularity groups 201 as shown in Fig. 18 (col. 13, lines 27-35).

Re claim 11, the planar shapes of the irregularity groups are substantially quadrangular and the shapes of two opposing edges of the irregularity groups 201 are substantially the same as shown in Fig. 18 (col. 14, lines 18-23).

Re claim 12, the lengths of the irregularity groups 201 are different from a pitch of pixels of the liquid crystal display device in an extending direction since the irregularities 4 locates over the boundary portion of the pixel 201 as shown in Fig. 18 (col. 13, lines 27-35).

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Finally, re claim 16, the liquid crystal display device of Yamanaka can be employed in an electronic device such as a personal computer, a liquid crystal television, a liquid crystal monitor of the like (col. 23, lines 60-64).

Conclusion


4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (571) 272-2293.

Thoi Duong



09/27/2005


ANDREW SCHECHTER
PRIMARY EXAMINER